

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 03-1070 (400/139))

In the Application of:

McSwiggen et al.

Serial No.: 10/727,780

Filing Date: December 3, 2003

For: Inhibition of Gene Expression Using
Duplex Forming Oligonucleotides

Examiner: TBA

Group Art Unit: TBA

Confirmation No.: 7111

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

1. We are transmitting herewith the attached papers for the above identified new patent application:

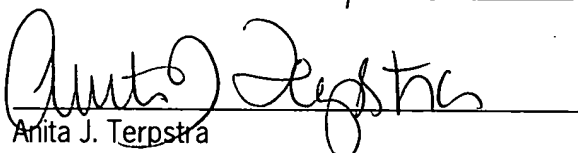
- ☒ Information Disclosure Statement;
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- ☒ Copies of IDS Citations for S/N 10/727,780 (Total 58 foreign patents and 219 other documents); and
- ☒ Return Receipt Postcard.

2. With respect to additional fees, no additional fee is required.

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4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 on September 9 2004.

By :


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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. Section 1.97 - 1.99, the Applicant wishes to make the following references of record in the above-identified application. This Information Disclosure Statement is in compliance with the continuing duty of candor as set forth in 37 C.F.R. Section 1.56. Copies of the cited references are enclosed. These references are also listed on the enclosed PTO Form 1449.

The Office has waived the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003. In accordance with this waiver, cited U.S. patents and U.S. patent application publications are not enclosed.

Also, attached to each reference in a language other than English is a translation of the reference in accordance with 37 C.F.R. § 1.98 (a) (3)(ii).

As this Information Disclosure Statement is being submitted after receipt of a foreign search report, a copy of the search report is attached herewith.

In the judgment of the undersigned, portions of the listed references may be material to the Examiner's consideration of the presently pending claims. This statement is not a representation that the listed references have effective dates early enough to be "prior art" within the meaning of 35 U.S.C. Section 102 or Section 103.

Applicants do not believe any fee is due with this submission. If this belief is in error and the Patent Office determines that the fee prescribed in the relevant portion of 37 C.F.R. Section 1.97 is applicable, the undersigned attorney by his signature hereby authorizes any such fee to be debited from Deposit Account 13-2490.

U. S. PATENT APPLICATION DOCUMENTS

- * Matulic-Adamic et al., U.S. Application No. 10/151,116 filed May 17, 2002
- * Vargeese et al., U.S. Application No. 10/201,394 filed August 13, 2002
- * Vargeese et al., U.S. Application No. 10/427,160 filed April 30, 2003
- * Hoffman et al., U.S. Publication No. 2001/0007666 published July 12, 2001
- * Caster et al., U.S. Publication No. 2002/0130430 published September 19, 2002
- * Churikov, U.S. Publication No. 2002/0137210 published September 26, 2002
- * Thompson et al., U.S. Application No. 60/082,404 filed April 20, 1998
- * Beigelman et al., U.S. Application No. 60/363,124 filed March 11, 2002

U.S. PATENTS

- * Vargeese et al., U.S. Patent No. 5,138,045, issued August 11, 1992
- * Lin et al., U.S. Patent No. 5,214,136, issued May 25, 1993
- * Sproat et al., U.S. Patent No. 5,334,711, issued August 2, 1994
- * Noonberg et al., U.S. Patent No. 5,624,803, issued April 29, 1997
- * Usman et al., U.S. Patent No. 5,627,053, issued May 6, 1997

- * Usman et al., U.S. Patent No. 5,631,360, issued May 20, 1997
- * Cook et al., U.S. Patent No. 5,670,633, issued September 23, 1997
- * Eckstein et al., U.S. Patent No. 5,672,695, issued September 30, 1997
- * Beigelman et al., U.S. Patent No. 5,716,824, issued February 20, 1998
- * Buhr et al., U.S. Patent No. 5,792,847, issued August 11, 1998
- * Usman et al., U.S. Patent No. 5,804,683, issued September 8, 1998
- * Usman et al., U.S. Patent No. 5,831,071, issued November 3, 1998
- * Sullenger et al., U.S. Patent No. 5,854,038, issued December 29, 1998
- * Scaringe et al., U.S. Patent No. 5,889,136, issued March 30, 1999
- * Crooke, U.S. Patent No. 5,898,031, issued April 27, 1999
- * Thompson et al., U.S. Patent No. 5,902,880, issued May 11, 1999
- * Matulic-Adamic et al., U.S. Patent No. 5,998,203, issued December 7, 1999
- * Brennan et al., U.S. Patent No. 6,001,311, issued December 14, 1999
- * Cook et al., U.S. Patent No. 6,005,087, issued December 21, 1999
- * Scaringe et al., U.S. Patent No. 6,008,400, issued December 28, 1999
- * Bellon et al., U.S. Patent No. 6,054,576, issued April 25, 2000
- * Crooke, U.S. Patent No. 6,107,094, issued August 22, 2000
- * Scaringe, U.S. Patent No. 6,111,086, issued August 29, 2000
- * Usman et al., U.S. Patent No. 6,117,657, issued September 12, 2000
- * Thompson, U.S. Patent No. 6,146,886, issued November 14, 2000
- * Manoharan et al., U.S. Patent No. 6,153,737, issued November 28, 2000
- * Bellon et al., U.S. Patent No. 6,162,909, issued December 19, 2000
- * Wang et al., U.S. Patent No. 6,235,310, issued May 22, 2001
- * Manoharan et al., U.S. Patent No. 6,235,886, issued May 22, 2001
- * Matulic-Adamic et al., U.S. Patent No. 6,248,878, issued June 19, 2001
- * Gold et al., U.S. Patent No. 6,300,074, issued October 9, 2001
- * Bellon et al., U.S. Patent No. 6,303,773, issued October 16, 2001
- * Guzaev et al., U.S. Patent No. 6,335,434, issued January 1, 2002
- * Zwick et al., U.S. Patent No. 6,350,934, issued February 26, 2002
- * Usman et al., U.S. Patent No. 6,353,098, issued March 5, 2002
- * Beigelman et al., U.S. Patent No. 6,395,713, issued May 28, 2002

- * Usman et al., U.S. Patent No. 6,437,117, issued August 20, 2002
- * Vook et al., U.S. Patent No. 6,447,796, issued September 10, 2002
- * Usman et al., U.S. Patent No. 6,469,158, issued October 22, 2002
- * Buhr et al., U.S. Patent No. 6,476,205, issued November 5, 2002
- * Fire et al., U.S. Patent No. 6,506,559, issued January 14, 2003
- * Cook et al., U.S. Patent No. 6,528,631, issued March 4, 2003
- * Sagara et al., U.S. Patent No. 6,586,524, issued July 1, 2003

FOREIGN PATENT DOCUMENTS

1. Graham et al., Australian Patent No. 4037501, filed August 3, 2000
2. Kreutzer et al., Canadian Patent No. 2,359,180, filed August 3, 2000
3. Kreutzer et al., European Patent No. 1144623, filed January 29, 2000
4. Arnold et al., International Publication No. WO 89/02439, published March 23, 1989
5. Gillespie et al., International Publication No. WO 90/14090, published November 29, 1990
6. Rossi et al., International Publication No. WO 91/03162, published March 21, 1991
7. Eckstein et al., International Publication No. WO 92/07065, published April 30, 1992
8. Usman et al., International Publication No. WO 93/15187, published August 5, 1993
9. Draper et al., International Publication No. WO 93/23569, published November 25, 1993
10. Agrawal et al., International Publication No. WO 94/01550, published January 20, 1994
11. Sullivan et al., International Publication No. WO 94/02595, published February 3, 1994
12. Usman et al., International Publication No. WO 95/06731, published March 9, 1995
13. Dudycz et al., International Publication No. WO 95/11910, published May 4, 1995
14. Ansell et al., International Publication No. WO 96/10390, published April 11, 1996
15. Choi et al., International Publication No. WO 96/10391, published April 11, 1996
16. Holland et al., International Publication No. WO 96/10392, published April 11, 1996
17. Beigelman et al., International Publication No. WO 96/18736, published June 20, 1996
18. Beigelman et al., International Publication No. WO 97/26270, published July 24, 1997
19. Klimuk et al., International Publication No. WO 99/04819, published February 4, 1999
20. Beigelman et al., International Publication No. WO 99/05094, published February 4, 1999

21. Deschamps de Paillette et al., International Publication No. WO 99/07409, published February 18, 1999
22. Wengel et al., International Publication No. WO 99/14226, published March 25, 1999
23. Barry et al., International Publication No. WO 99/31262, published June 24, 1999
24. Fire et al., International Publication No. WO 99/32619, published July 1, 1999
25. Graham et al., International Publication No. WO 99/49029, published September 30, 1999
26. Waterhouse et al., International Publication No. WO 99/53050, published October 21, 1999
27. Thompson et al., International Publication No. WO 99/54459, published October 28, 1999
273. Heifetz et al., International Publication No. WO 99/61631, published December 2, 1999
28. Plaetinck et al., International Publication No. WO 00/01846, published January 13, 2000
29. Kreutzer et al., International Publication No. WO 00/44895, published August 3, 2000
30. Li et al., International Publication No. WO 00/44914, published August 3, 2000
31. Sheen, International Publication No. WO 00/49035, published August 24, 2000
32. O'Hare and Norman, International Publication No. WO 00/53722, published September 14, 2000
33. Pachuk et al., International Publication No. WO 00/63364, published October 26, 2000
34. Wengel et al., International Publication No. WO 00/66604, published November 9, 2000
35. Satischandran et al., International Publication No. WO 01/04313, published January 18, 2001
36. Mello et al., International Publication No. WO 01/29058, published April 26, 2001
37. Zernicka-Goetz et al., International Publication No. WO 01/36646, published May 25, 2001
38. Grossniklaus et al., International Publication No. WO 01/38551, published May 31, 2001
39. Churikov et al., International Publication No. WO 01/42443, published June 14, 2001
40. Cogoni et al., International Publication No. WO 01/53475, published July 26, 2001
41. Beach et al., International Publication No. WO 01/68836, published September 20, 2001
42. Honer et al., International Publication No. WO 01/70944, published September 27, 2001
43. Graham et al., International Publication No. WO 01/70949, published September 27, 2001
44. Deak et al., International Publication No. WO 01/72774, published October 4, 2001
45. Tuschl et al., International Publication No. WO 01/75164, published October 11, 2001
46. Arndt et al., International Publication No. WO 01/92513, published December 6, 2001

47. Mushegian et al., International Publication No. WO 01/96584, published December 20, 2001
48. Kreutzer et al., International Publication No. WO 02/055692, published January 9, 2002
49. Kreutzer et al., International Publication No. WO 02/055693, published January 9, 2002
50. Beigelman et al., International Publication No. WO 02/094185, published November 28, 2002
51. Echeverri et al., International Publication No. WO 02/38805, published May 16, 2002
52. Tuschl et al., International Publication No. WO 02/44321, published June 6, 2002
53. Alhleim et al., International Publication No. WO 03/024420, published March 27, 2003
54. Wang et al., International Publication No. WO 03/046185, published June 5, 2003
55. Wang et al., International Publication No. WO 03/047518, published June 12, 2003
56. McSwiggen et al., International Publication No. WO 03/070918, published August 28, 2003
57. McSwiggen et al., International Publication No. WO 03/074654, published September 12, 2003

OTHER DOCUMENTS

58. Akhtar and Juliano, "Cellular Uptake and Intracellular Fate of AntiSense Oligonucleotides," Trends Cell Biol. 2:139-144 (1992)
59. Aldrian-Herrada et al., "A peptide nucleic acid (PNA) is more rapidly internalized in cultured neurons when coupled to a *retro-inverso* delivery peptide. The antisense activity depresses the target mRNA and protein in magnocellular oxytocin neurons," Nucleic Acids Research 26:4910-4916 (1998)
60. Allshire, "RNAi and Heterochromatin - A Hushed-up Affair," Science 297:1818-1819 (2002)
61. Andrews and Faller, "A rapid micropreparation technique for extraction of DNA-binding proteins from limiting numbers of mammalian cells," Nucleic Acids Research 19:2499 (1991)
62. Baenziger and Fiete, "Galactose and N-Acetylgalactosamine-Specific Endocytosis of Glycopeptides by Isolated Rat Hepatocytes," Cell 22:611-620 (1980)
63. Bahramian et al., "Transcriptional and Posttranscriptional Silencing of Rodent $\alpha 1(I)$ Collagen by a Homologous Transcriptionally Self-Silenced Transgene," Molecular and Cellular Biology, 274-283 (1999)
64. Bartel and Szostak, "Isolation of New Ribozymes from a Large Pool of Random Sequences," Science 261:1411-1418 (1993)
65. Bass, "The short answer," Nature 411:428-429 (2001)

66. Beaucage and Iyer, "The Functionalization of Oligonucleotides Via Phosphoramidite Derivatives," Tetrahedron 49:1925-1963 (1993)
67. Beaudry and Joyce, "Directed Evolution of an RNA Enzyme," Science 257:635-641 (1992)
68. Beigelman et al., "Chemical Modification of Hammerhead Ribozymes," The Journal of Biological Chemistry 270:25702-25708 (1995)
69. Bellon et al., "Amino-Linked Ribozymes: Post-Synthetic Conjugation of Half-Ribozymes," Nucleosides & Nucleotides 16:951-954 (1997)
70. Bellon et al., "Post-synthetically Ligated Ribozymes: An Alternative Approach to Iterative Solid Phase Synthesis," Bioconjugate Chem. 8:204-212 (1997)
71. Bernstein et al., "Role for a Bidentate Ribonuclease in the Initiation Step of RNA Interference," Nature 409:363-366 (2001)
72. Bettinger et al., "Size Reduction of Galactosylated PEI/DNA Complexes Improves Lectin-Mediated Gene Transfer into Hepatocytes," Bioconjugate Chem., 10, 558-561 (1999)
73. Boado et al., "Drug Delivery of Antisense Molecules to the Brain for Treatment of Alzheimer's Disease and Cerebral AIDS," Journal of Pharmaceutical Sciences 87:1308-1315 (1998)
74. Boado, "Antisense drug delivery through the blood-brain barrier," Advanced Drug Delivery Reviews 15:73-107 (1995)
75. Bongartz et al., "Improved biological activity of antisense oligonucleotides conjugated to a fusogenic peptide," Nucleic Acids Research 22:4681-4688 (1994)
76. Breaker and Joyce, "Inventing and improving ribozyme function: rational design versus iterative selection methods," TIBTECH 12:268-275 (1994)
77. Breaker, "Are engineered proteins getting competition from RNA?" Current Opinion in Biotechnology 7:442-448 (1996)
78. Brennan et al., "Two-Dimensional Parallel Array Technology as a New Approach to Automated Combinatorial Solid-Phase Organic Synthesis," Biotechnology and Bioengineering (Combinatorial Chemistry) 61:33-45 (1998)
79. Broadus et al., "Distribution and stability of antisense phosphorothioate oligonucleotides in rodent brain following direct intraparenchymal controlled-rate infusion," Neurosurg. Focus 3(5):Article 4 (1997)
80. Burger et al., "Experimental Corneal Neovascularization: Biomicroscopic, Angiographic, and Morphologic Correlation," Cornea 4:35-41 (1985/1986)
81. Burgin et al., "Chemically Modified Hammerhead Ribozymes with Improved Catalytic Rates," Biochemistry 35:14090-14097 (1996) (volume no. mistakenly listed as 6)
82. Burlina et al., "Chemical Engineering of RNase Resistant and Catalytically Active Hammerhead Ribozymes," Bioorganic & Medicinal Chemistry 5:1999-2010 (1997)
83. Caruthers et al., "Chemical Synthesis of Deoxyoligonucleotides and Deoxyoligonucleotide Analogs," Methods in Enzymology 211:3-19 (1992)

84. Chen et al., "Multitarget-Ribozyme Directed to Cleave at up to Nine Highly Conserved HIV-1 env RNA Regions Inhibits HIV-1 Replication-Potential Effectiveness Against Most Presently Sequenced HIV-1 Isolates," Nucleic Acids Research 20:4581-4589 (1992)
85. Choi et al., "Effect of Poly(ethylene glycol) Grafting on Polyethylenimine as a Gene Transfer Vector *in vitro*," *Bull. Korean Chem. Soc.*, 22, 46-52 (2001)
86. Chowrira et al., "*In Vitro* and *in Vivo* Comparison of Hammerhead, Hairpin, and Hepatitis Delta Virus Self-Processing Ribozyme Cassettes," J. Biol. Chem. 269:25856-25864 (1994)
87. Chun et al., "Effect of infusion of vasoactive intestinal peptide (VIP)-antisense oligodeoxynucleotide into the third cerebral ventricle above the hypothalamic cuprachiasmatic nucleus on the hyperglycemia caused by intracranial injection of 2-deoxy-D-glucose in rats," *Neuroscience Letters* 257:135-138 (1998)
88. Cload and Schepartz, "Polyether Tethered Oligonucleotide Probes," J. Am. Chem. Soc. 113:6324-6326 (1991)
89. Cole et al., "Activation of RNase L by 2',5'-Oligoadenylates," *The Journal of Biological Chemistry*, 272:31, 19187-19192 (1997)
90. Connolly et al., "Binding and Endocytosis of Cluster Glycosides by Rabbit Hepatocytes," The Journ. of Biol. Chem. 257:939-945 (1982)
91. Conry et al., "Phase I Trial of a Recombinant Vaccinia Virus Encoding Carcinoembryonic Antigen in Metastatic Adenocarcinoma: Comparison of Intradermal *versus* Subcutaneous Administration," *Clinical Cancer Research* 5:2330-2337 (1999)
92. Couture and Stinchcomb, "Anti-gene therapy: the use of ribozymes to inhibit gene function," Trends In Genetics 12:510-515 (1996)
93. d'Aldin et al., "Antisense oligonucleotides to the GluR2 AMPA receptor subunit modify excitatory synaptic transmission *in vivo*," *Molecular Brain Research* 55:151-164 (1998)
94. Diebold et al., "Mannose Polyethylenimine Conjugates for Targeted DNA Delivery into Dendritic Cells*," *The Journal of Biological Chemistry*, 274, 19087-19094 (1999)
95. Dryden et al., "The lack of specificity of neuropeptide Y (NPY) antisense oligodeoxynucleotides administered intracerebroventricularly in inhibiting food intake and NPY gene expression in the rat hypothalamus," *Journal of Endocrinology* 157:169-175 (1998)
96. Durand et al., "Circular Dichroism Studies of an Oligodeoxyribonucleotide Containing a Hairpin Loop Made of a Hexaethylene Glycol Chain: Conformation and Stability," Nucleic Acids Research 18:6353-6359 (1990) [sometimes referred to as Seela and Kaiser]
97. Earnshaw et al., "Modified Oligoribonucleotides as Site-Specific Probes of RNA Structure and Function," *Biopolymers* 48:39-55 (1998)
98. Elbashir et al., "Duplexes of 21-nucleotide RNAs mediate RNA interference in cultured mammalian cells," *Nature* 411:494-498 (2001)

99. Elbashir et al., "Functional Anatomy of siRNAs for Mediating Efficient RNAi in *Drosophila Melanogaster* Embryo Lysate," The EMBO Journal 20:6877-6888 (2001)
100. Elbashir et al., "RNA Interference is Mediated by 21- and 22-Nucleotide RNAs," Genes and Development 15:188-200 (2001)
101. Elkins and Rossi, "Ch. 2 - Cellular Delivery of Ribozymes," in Delivery Strategies for Antisense Oligonucleotide Therapeutics, edited by Akhtar, CRC Press, pp. 17-220 (1995)
102. Emerich et al., "Biocompatibility of Poly (DL-Lactide-co-Glycolide) Microspheres Implanted Into the Brain," Cell Transplantation 8:47-58 (1999)
103. Erbacher et al., "Transfection and physical properties of various saccharide, poly(ethylene glycol), and antibody-derivatized polyethylenimines (PEI), The Journal of Gene Medicine, 1, 210-222 (1999) [sometimes incorrectly cited as pages 1-18]
104. Ferentz and Verdine, "Disulfied Cross-Linked Oligonucleotides," J. Am. Chem. Soc. 113:4000-4002 (1991)
105. Fillion and Phillips, "Toxicity and immunomodulatory activity of liposomal vectors formulated with cationic lipids toward immune effector cells," Biochimica et Biophysica Acta 1329:345-356 (1997)
106. Fire et al., "Potent and Specific Genetic Interference by Double-Stranded RNA in *Caenorhabditis Elegans*," Nature 391:806-811(1998)
107. Fire, "RNA-triggered Gene Silencing," TIG 15:358-363(1999)
108. Freier et al., "Improved free-energy parameters for predictions of RNA duplex stability," Proc. Natl. Acad. Sci. USA 83:9373-9377 (1986) [sometimes referred to as Frier]
109. Furgeson et al., "Modified Linear Polyethylenimine—Cholesterol Conjugates for DNA Complexation," Bioconjugate Chem., 14, 840-847 (2003)
110. Genbank Accession No. AB020693
111. Genbank Accession No. AF037412
112. Genbank Accession No. AF063658
113. Genbank Accession No. AF100308.1
114. Genbank Accession No. AJ430458
115. Genbank Accession No. D00239
116. Genbank Accession No. D11168

- 117. Genbank Accession No. D50483.1
- 118. Genbank Accession No. K02121
- 119. Genbank Accession No. L24917
- 120. Genbank Accession No. L38318
- 121. Genbank Accession No. M16248
- 122. Genbank Accession No. M31724
- 123. Genbank Accession No. NC_001345
- 124. Genbank Accession No. NC_001347
- 125. Genbank Accession No. NC_001353
- 126. Genbank Accession No. NC_001563
- 127. Genbank Accession No. NC_001781
- 128. Genbank Accession No. NC_004718
- 129. Genbank Accession No. NM_001285
- 130. Genbank Accession No. NM_001982
- 131. Genbank Accession No. NM_002592.1
- 132. Genbank Accession No. NM_002667
- 133. Genbank Accession No. NM_002737
- 134. Genbank Accession No. NM_003219

135. Genbank Accession No. NM_003376.3
136. Genbank Accession No. NM_004283
137. Genbank Accession No. NM_004448
138. Genbank Accession No. NM_005228
139. Genbank Accession No. NM_005235
140. Genbank Accession No. S82227
141. Genbank Accession No. U51188
142. Genbank Accession No. U86046
143. Genbank Accession No. X01087
144. Genbank Accession No. X02316
145. Genbank Accession No. X07203
146. Genbank Accession No. X60667
147. Genbank Accession No. XM_015620
148. Genbank Accession No. XM_033884
149. Genbank Accession No. XM_067723
150. Ghirnikar et al., "Chemokine inhibition in rat stab wound brain injury using antisense oligodeoxynucleotides," *Neuroscience Letters* 247:21-24 (1998)
151. Godbey et al., "Poly(ethylenimine) and its role in gene delivery," *Journal of Controlled Release*, 60, 149-160 (1999)
152. Gold, "Axonal Regeneration of Sensory Nerves is Delayed by Continuous Intrathecal Infusion of Nerve Growth Factor," *Neuroscience* 76:1153-1158 (1997)

153. Gonzalez et al., "New Class of Polymers for the Delivery of Macromolecular Therapeutics," Bioconjugate Chem. 10:1068-1074 (1999)
154. Good et al., "Expression of small, therapeutic RNAs in human nuclei," Gene Therapy 4:45-54 (1997)
155. Grant et al., "Insulin-like growth factor I acts as an angiogenic agent in rabbit cornea and retina: comparative studies with basic fibroblast growth factor," Diabetologia 36:282-291 (1993)
156. Hall et al., "Establishment and Maintenance of a Heterochromatin Domain," Science 297:2232-2237 (2002)
157. Hamilton, et al., "A Species of Small Antisense RNA in Posttranscriptional Gene Silencing in Plants," Science, 286, 950-952 (1999)
158. Hammond et al., "An RNA-Directed Nuclease Mediates Post-Transcriptional Gene Silencing in *Drosophila* Cells," Nature 404:293-296 (2000)
159. Hartmann et al., "Spontaneous and Cationic Lipid-Mediated Uptake of Antisense Oligonucleotides in Human Monocytes and Lymphocytes," The Journal of Pharmacology and Experimental Therapeutics 285:920-928 (1998)
160. Hofland and Huang, "Formulation and Delivery of Nucleic Acids," Handbook of Exp. Pharmacol. 137:165-192 (1999)
161. Hunziker et al., "Nucleic Acid Analogues: Synthesis and Properties, in Modern Synthetic Methods," VCH, 331-417 (1995)
162. Hutvagner and Zamore, "A MicroRNA in a Multiple-Turnover RNAi Enzyme Complex," Science 297:2056-2060 (2002)
163. Hutvagner et al., "A Cellular Function for the RNA-Interference Enzyme Dicer in the Maturation of the *let-7* Small Temporal RNA," Science 293:834-838 (2001)
164. International Search Report for PCT/US03/05028 mailed October 17, 2003
165. International Search Report for PCT/US03/05346 mailed October 17, 2003
166. Ishiwata et al., "Physical-Chemistry Characteristics and Biodistribution of Poly(ethylene glycol)-Coated Liposomes Using Poly(oxyethylene) Cholesteryl Ether," Chem. Pharm. Bull. 43:1005-1011 (1995) (mistakenly referred to as Ishiwataet)
167. Ishizaka et al., "Isolation of Active Ribozymes from an RNA Pool of Random Sequences Using an Anchored Substrate RNA," Biochemical and Biophysical Research Communication 214(2):403-409 (1995)
168. Izant and Weintraub, "Constitutive and Conditional Suppression of Exogenous and Endogenous Genes by Anti-Sense RNA," Science 229:345-352 (1985)
169. Jaschke et al., "Automated Incorporation of Polyethylene Glycol into Synthetic Oligonucleotides," Tetrahedron Letters 34:301-304 (1993) (sometimes mistakenly referred to as Jsckhe)
170. Jenuwein, "An RNA-Guided Pathway for the Epigenome," Science 297:2215-2218 (2002)

171. Jolliet-Riant and Tillement, "Drug transfer across the blood-brain barrier and improvement of brain delivery," *Fundam. Clin. Pharmacol.* 13:16-26 (1999)
172. Joyce et al., "Amplification, mutation and selection of catalytic RNA," *Gene* 82:83-87 (1989)
173. Joyce, "Directed Molecular Evolution," *Scientific American* 267:90-97 (1992)
174. Karpeisky et al., "Highly Efficient Synthesis of 2'-O-Amino Nucleosides And Their Incorporation in Hammerhead Ribozymes," *Tetrahedron Letters* 39:1131-1134 (1998)
175. Kashani-Sabet et al., "Reversal of the Malignant Phenotype by an Anti-ras Ribozyme," *Antisense Research & Development* 2:3-15 (1992)
176. Kim et al., "Inhibition of vascular endothelial growth factor-induced angiogenesis suppresses tumour growth *in vivo*," *Nature* 362:841-844 (1993)
177. Kronenwett et al., "Oligodeoxyribonucleotide Uptake in Primary Human Hematopoietic Cells is Enhanced by Cationic Lipids and Depends on the Hematopoietic Cell Subset," *Blood* 91:852-862 (1998)
178. Kumar and Ellington, "Artificial evolution and natural ribozymes," *FASEB J.* 9:1183-1195 (1995)
179. Kunath et al., "The structure of PEG-modified poly(ethylene imines) influences biodistribution and pharmacokinetics of their complexes with NF-kappaB decoy in mice.," *Medline (Pharm Res.)* 19(6): 810-817 (6/1/2002)
180. Kuwabara et al., "Allosterically Controllable Ribozymes with Biosensor Functions," *Current Opinion in Chem. Biol.* 4:669-677 (2000)
181. Lasic and Needham "The 'Stealth' Liposome: A Prototypical Biomaterial," *Chemical Reviews* 95:2601-2627 (1995)
182. Lasic and Papahadjopoulos, "Liposomes Revisited," *Science* 267:1275-1276 (1995)
183. Lee and Larson, "Modified Liposome Formulations for Cytosolic Delivery of Macromolecules," *ACS Symposium Series* 752:184-192 (2000)
184. Lee and Lee, "Preparation of Cluster Glycosides of N-Acetylgalactosamine That Have Subnanomolar Binding Constants Towards the Mammalian Hepatic Gal/GalNAc-specific Receptor," *Glyconjugates J.* 4:317-328 (1987)
185. Lee et al., "Enhancing the Catalytic Repertoire of Nucleic Acids: A Systematic Study of Linker Length and Rigidity," *Nucleic Acids Research* 29:1565-1573 (2001)
186. Lee et al., "Expression of Small Interfering RNA's Targeted Against HIV-1 *rev* Transcripts in Human Cells," *Nature Biotechnology* 19:500-505 (2002)
187. Leirdal et al., "Gene silencing in mammalian cells by preformed small RNA duplexes," *Biochemical and Biophysical Research Communications*, 295, 744-748 (2002)
188. Lepri et al., "Effect of Low Molecular Weight Heparan Sulphate on Angiogenesis in the Rat Cornea after Chemical Cauterization," *Journal of Ocular Pharmacology* 10:273-281 (1994)

189. L'Huillier et al., "Cytoplasmic Delivery of Ribozymes Leads to Efficient Reduction in α -Lactalbumin mRNA Levels in C1271 Mouse," EMBO J. 11:4411-4418 (1992)
190. Limbach et al., "Summary: the modified nucleosides of RNA," Nucleic Acids Research 22(12):2183-2196 (1994)
191. Lin and Matteucci, "A Cytosine Analogue Capable of Clamp-Like Binding to a Guanine in Helical Nucleic Acid," *J. Am. Chem. Soc.* 120:8531-8532 (1998)
192. Lin et al., "A Novel mRNA-cRNA Interference Phenomenon for Silencing bcl-2 Expression in Human LNCaP Cells," *Biochemical and Biophysical Research Communications*, 281, 639-644 (2001)
193. Lisiewicz et al., "Inhibition of Human Immunodeficiency Virus Type 1 Replication by Regulated Expression of a Polymeric Tat Activation Response RNA Decoy as a Strategy for Gene Therapy in AIDS," Proc. Natl. Acad. Sci. U.S.A. 90:8000-8004 (1993)
194. Liu et al., "Cationic Liposome-mediated Intravenous Gene Delivery," J. Biol. Chem. 270(42):24864-24870 (1995)
195. Loakes, "The Applications of Universal DNA Base Analogues," Nucleic Acids Research 29:2437-2447 (2001)
196. Long and Uhlenbeck, "Kinetic characterization of intramolecular and intermolecular hammerhead RNAs with stem II deletions," Proc. Natl. Acad. Sci. USA 91:6977-6981 (1994)
197. Ma and Wei, "Enhanced Delivery of Synthetic Oligonucleotides to Human Leukaemic Cells by Liposomes and Immunoliposomes," *Leukemia Research* 20:925-930 (1996)
198. Ma et al., "Design and Synthesis of RNA Miniduplexes via a Synthetic Linker Approach. 2. Generation of Covalently Closed, Double-Stranded Cyclic HIV-1 TAR RNA Analogs with High Tat-Binding Affinity," Nucleic Acids Research 21:2585-2589 (1993)
199. Ma et al., "Design and Synthesis of RNA Miniduplexes via a Synthetic Linker Approach," Biochemistry 32:1751-1758 (1993)
200. Martinez et al., "Single-Stranded Antisense siRNAs Guide Target RNA Cleavage in RNAi," Cell 110:563-574 (2002)
201. Matulic-Adamic et al., "Functionalized Nucleoside 5'-triphosphates for In Vitro Selection of New Catalytic Ribonucleic Acids," Bioorganic & Medicinal Chemistry Letters 10:1299-1302 (2000)
202. Maurer et al., "Lipid-based systems for the intracellular delivery of genetic drugs," *Molecular Membrane Biology* 16:129-140 (1999)
203. McCurdy et al., "Deoxyoligonucleotides with Inverted Polarity: Synthesis and Use in Triple-Helix Formation" Nucleosides & Nucleotides 10:287-290 (1991)
204. McGarry and Lindquist, "Inhibition of heat shock protein synthesis by heat-inducible antisense RNA," Proc. Natl. Acad. Sci. USA 83:399-403 (1986)
205. McManus et al., "Gene Silencing Using Micro-RNA Designed Hairpins," RNA 8:842-850 (2002)

206. Mesmaeker et al, "Novel Backbone Replacements for Oligonucleotides," American Chemical Society, pp. 24-39 (1994)
207. Miyagishi and Taira, "U6 Promoter-driven siRNAs with Four Uridine 3' Overhangs Efficiently Suppress Targeted Gene Expression in Mammalian Cells," Nature Biotechnology 19:497-500 (2002)
208. Moore and Sharp, "Site-Specific Modification of Pre-mRNA: The 2'-Hydroxyl Groups at the Splice Sites," Science 256:992-996 (1992)
209. Mori et al., "Pigment epithelium-derived factor inhibits retinal and choroidal neovascularization," *Journal of Cellular Physiology*, 118(2) 253-263 (2001)
210. Nakamaye and Eckstein, "AUA-Cleaving Hammerhead Ribozymes: Attempted Selection for Improved Cleavage," Biochemistry 33:1271-1277 (1994)
211. Noonberg et al., *In vivo* generation of highly abundant sequence-specific oligonucleotides for antisense and triplex gene regulation," Nucleic Acids Research 22(14):2830-2836 (1994)
212. Novina et al., *Nature Medicine*, 8, 681-686 (2002)
213. Nykanen et al., "ATP Requirements and Small Interfering RNA Structure in the RNA Interference Pathway," Cell 107:309-321 (2001)
214. Ohkawa et al., "Activities of HIV-RNA Targeted Ribozymes Transcribed From a 'Shot-Gun' Type Ribozyme-trimming Plasmid," Nucleic Acids Symp. Ser. 27:15-16 (1992)
215. Ohno-Matsui, et al., "Inducible Expression of Vascular Endothelial Growth Factor in Adult Mice Causes Severe Proliferative Retinopathy and Retinal Detachment," *Animal Models from the Departments of Ophthalmology and Neuroscience and Molecular Biology and Genetics, Am. J. Pathology*, 160, 711-719 (2002)
216. Ojwang et al., "Inhibition of Human Immunodeficiency Virus Type 1 Expression by a Hairpin Ribozyme," Proc. Natl. Acad. Sci. USA 89:10802-10806 (1992)
217. Oku et al., "Real-time analysis of liposomal trafficking in tumor-bearing mice by use of positron emission tomography," Biochimica et Biophysica Acta 1238:86-90 (1995)
218. Ono et al., "DNA Triplex Formation of Oligonucleotide Analogues Consisting of Linker Groups and Octamer Segments That Have Opposite Sugar-Phosphate Backbone Polarities," Biochemistry 30:9914-9921 (1991)
219. O'Reilly et al., "Angiostatin: A Novel Angiogenesis Inhibitor That Mediates the Suppression of Metastases by a Lewis Lung Carcinoma," Cell 79:315-328 (1994)
220. Orgis et al., "DNA/polyethylenimine transfection particles: Influence of ligands, polymer size, and PEGylation on internalization and gene expression," *AAPS PharmSci.*, 3 (3) article 21 (<http://www.pharmsci.org>) p. 1- 11 (2001)
221. Ormerod et al., "Effects of Altering the Eicosanoid Precursor Pool on Neovascularization and Inflammation in the Alkali-burned Rabbit Cornea," *American Journal of Pathology* 137:1243-1252 (1990)

222. Pandey et al., "Role of B61, the Ligand for the Eck Receptor Tyrosine Kinase, in TNF- α -Induced Angiogenesis," *Science* 268:567-569 (1995)
223. Pardridge et al., "Vector-mediated delivery of a polyamide ("peptide") nucleic acid analogue through the blood-brain barrier *in vivo*," *Proc. Natl. Acad. Sci. USA* 92:5592-5596 (1995)
224. Parrish, "Functional Anatomy of a dsRNA Trigger: Differential Requirement for the Two Trigger Strands in RNA Interference," *Molecular Cell* 6:1077-1087 (2000)
225. Paul et al., "Effective Expression of Small Interfering RNA in Human Cells," *Nature Biotechnology* 20:505-508 (2002)
226. Perreault et al., "Mixed Deoxyribo- and Ribo-Oligonucleotides with Catalytic Activity," *Nature* 344:565-567 (1990) (often mistakenly listed as Perrault)
227. Petersen et al., "Polyethylenimine-graft-Poly(ethylene glycol) Copolymers: Influence of Copolymer Block Structure on DNA Complexation and Biological Activities as Gene Delivery System," *Bioconjugate Chem.*, 13, 845-854 (2002)
228. Pieken et al., "Kinetic Characterization of Ribonuclease-Resistant 2'-Modified Hammerhead Ribozymes," *Science* 253:314-317 (1991)
229. Pierce et al., "Vascular endothelial growth factor/vascular permeability factor expression in a mouse model of retinal neovascularization," *Proc. Natl. Acad. Sci. USA* 92:905-909 (1995)
230. Ponpipom et al., "Cell-Specific Ligands for Selective Drug Delivery to Tissues and Organs," *J. Med. Chem.* 24:1388-1395 (1981)
231. Reinhart and Bartel, "Small RNAs Correspond to Centromer Heterochromatic Repeats," *Science* 297:1831 (2002)
232. Reinhart et al., "MicroRNAs in Plants," *Genes & Development* 16:1616-1626 (2002)
233. Richardson and Schepartz, "Tethered Oligonucleotide Probes. A Strategy for the Recognition of Structured RNA," *J. Am. Chem. Soc.* 113:5109-5111 (1991)
234. Saenger (ed), "Modified Nucleosides and Nucleotides; Nucleoside Di- and Triphosphates; Coenzymes and Antibiotics, (ch.7)" *Principles of Nucleic Acid Structure* 158-200 (1984)
235. Santoro and Joyce, "A general purpose RNA-cleaving DNA enzyme," *Proc. Natl. Acad. Sci. USA* 94:4262-4266 (1997)
236. Scaringe et al., "Chemical synthesis of biologically active oligoribonucleotides using β -cyanoethyl protected ribonucleoside phosphoramidites," *Nucl Acids Res.* 18:5433-5441 (1990)
237. Schroeder et al., "Diffusion Enhancement of Drugs by Loaded Nanoparticles *In Vitro*," *Prog. Neuro-Psychopharmacol. & Biol. Psychiat.* 23:941-949 (1999)
238. Schwarz et al., "Evidence that siRNAs Function as Guides, Not Primers, in the *Drosophila* and Human RNAi Pathways," *Molecular Cell* 10:537-548 (2002)

239. Seela and Kaiser, "Oligodeoxyribonucleotides containing 1,3-propanediol as nucleoside substitute," Nucleic Acids Research 15:3113-3129 (1987)
240. Senger et al., "Vascular permeability factor (VPF, VEGF) in tumor biology," *Cancer and Metastasis Reviews* 12:303-324 (1993)
241. Shabarova et al., "Chemical ligation of DNA: The first non-enzymatic assembly of a biologically active gene," Nucleic Acids Research 19:4247-4251 (1991)
242. Sheehan et al., "Biochemical properties of phosphonoacetate and thiophosphonoacetate oligodeoxyribonucleotides," *Nucleic Acids Research*, 31 (14), 4109-4118 (2003)
243. Shweiki et al., "Patterns of Expression of Vascular Endothelial Growth Factor (VEGF) and VEGF Receptors in Mice Suggest a Role in Hormonally Regulated Angiogenesis," *J. Clin. Invest.* 91:2235-2243 (1993)
244. Sullenger and Cech, "Tethering Ribozymes to a Retroviral Packaging Signal for Destruction of Viral RNA," Science 262:1566-1569 (1993)
245. Szostak, "In Vitro Genes," TIBS 17:89-93 (1993)
246. Taira et al., "Construction of a novel RNA-transcript-trimming plasmid which can be used both *in vitro* in place of run-off and (G)-free transcriptions and *in vivo* as multi-sequences transcription vectors," Nucleic Acids Research 19:5125-5130 (1991)
247. Takahashi et al., "Markedly Increased Amounts of Messenger RNAs for Vascular Endothelial Growth Factor and Placenta Growth Factor in Renal Cell Carcinoma Associated with Angiogenesis," *Cancer Research* 54:4233-4237 (1994)
248. Tang et al., "Examination of the catalytic fitness of the hammerhead ribozyme by in vitro selection," RNA 3:914-925 (1997)
249. Thomas et al., "Enhancing polyethylenimine's delivery of plasmid DNA into mammalian cells," *PNAS*, 99, 14640-14645 (2002)
250. Thompson et al., "Improved accumulation and activity of ribozymes expressed from a tRNA-based RNA polymerase III promoter," Nucleic Acids Research 23:2259-2268 (1995)
251. Turner et al., "Improved Parameters for Prediction of RNA Structure," Cold Spring Harbor Symposia on Quantitative Biology Volume LII, pp. 123-133 (1987)
252. Turner et al., "Free Energy Increments for Hydrogen Bonds in Nucleic Acid Base Pairs," J. Am. Chem. Soc. 109:3783-3785 (1987)
253. Tuschl et al., "Targeted mRNA Degradation by Double-Stranded RNA In Vitro," Genes & Development 13:3191-3197 (1999)
254. Tyler et al., "Peptide nucleic acids targeted to the neurotensin receptor and administered i.p. cross the blood-brain barrier and specifically reduce gene expression," *Proc. Natl. Acad. Sci. USA* 96:7053-7058 (1999)
255. Tyler et al., "Specific gene blockade shows that peptide nucleic acids readily enter neuronal cells in vivo," *FEBS Letters* 421:280-284 (1998)

256. Uhlmann and Peyman, "Antisense Oligonucleotides: A New Therapeutic Principle," Chemical Reviews 90:544-584 (1990)
257. Usman and Cedergren, "Exploiting the chemical synthesis of RNA," TIBS 17:334-339 (1992)
258. Usman et al., "Automated Chemical Synthesis of Long Oligoribonucleotides Using 2'-O-Silylated Ribonucleoside 3'-O-Phosphoramidites on a Controlled-Pore Glass Support: Synthesis of a 43-Nucleotide Sequence Similar to the 3'-Half Molecule of an *Escherichia coli* Formylmethoionine tRNA," J. Am. Chem. Soc. 109:7845-7854 (1987)
259. Usman et al., "Chemical modification of hammerhead ribozymes: activity and nuclease resistance," Nucleic Acids Symposium Series 31:163-164 (1994)
260. Vaish et al., "Isolation of Hammerhead Ribozymes with Altered Core Sequences by *in Vitro* Selection," Biochemistry 36:6495-6501 (1997)
261. Ventura et al., "Activation of HIV-Specific Ribozyme Activity by Self-Cleavage," Nucleic Acids Research 21:3249-3255 (1993)
262. Verma and Eckstein, "Modified Oligonucleotides: Synthesis and Strategy for Users," Annu. Rev. Biochem. 67:99-134 (1998)
263. Volpe et al., "Regulation of Heterochromatic Silencing and Histone H3 Lysine-9 Methylation by RNAi," Science 297:1833-1837 (2002)
264. Wianny and Zernicka-Goetz et al., "Specific Interference with Gene Function by Double-Stranded RNA in Early Mouse Development," Nature Cell Biology 2:70-75 (2000)
265. Wincott et al., "Synthesis, deprotection, analysis and purification of RNA and ribozymes," Nucleic Acids Research 23(14):2677-2684 (1995)
266. Wincott et al., "A Practical Method for the Production of RNA and Ribozymes," Methods in Molecular Biology 74:59-69 (1997)
267. Wu and Kaufman, *J. Biol. Chem.*, 272, 1921-1926 (1997)
268. Wu and Wu, "Receptor-mediated *in Vitro* Gene Transformation by a Soluble DNA Carrier System," The Journ. of Biol. Chem. 262:4429-4432 (1987)
269. Yamada et al., "Nanoparticles for the delivery of genes and drugs to human hepatocytes," *Nature Biology*, Published online: 29 June 2003, doi:10.1038/nbt843 (August 2003 Volume 21 Number 8 pp 885-890) (2003)
270. Yu et al., "A Hairpin Ribozyme Inhibits Expression of Diverse Strains of Human Immunodeficiency Virus Type 1," Proc. Natl. Acad. Sci. USA 90:6340-6344 (1993)
271. Zamore et al., "RNAi: Double-Stranded RNA Directs the ATP-Dependent Cleavage of mRNA at 21 to 23 Nucleotide Intervals," Cell 101:25-33 (2000)
272. Ziche et al., "Angiogenesis Can Be Stimulated or Repressed *In Vivo* by a Change in GM3:GD3 Ganglioside Ratio," *Laboratory Investigation* 67:711-715 (1992) [mistakenly referred to as Zieche]

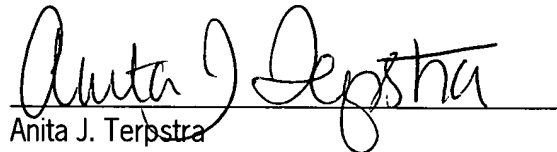
- 274. Lin et al., "Policing rogue genes," Nature, 402, 128-129 (1999)
- 275. Sharp et al., "RNAi and double-strand RNA," Genes & Development, 13:139-141 (1999)
- 276. Strauss, Evelyn, "Molecular Biology: Candidate 'Gene Silencers' Found," Molecular Biology, Vol. 286, No. 5441, p. 886 (1999) [sometimes mistakenly referred to as being published in Science]
- 277. Waterhouse et al., "Virus resistance and gene silencing in plants can be induced by simultaneous expression of sense and antisense RNA," Proc. Natl. Acad. Sci. USA, 95, 13959-13964 (1998)

Respectfully submitted,

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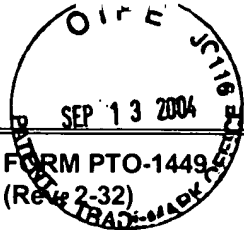
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03-1070
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Serial No.

10/727,780

INFORMATION DISCLOSURE
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Applicant:

McSwiggen et al.

Filing Date:

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U.S. PATENT APPLICATION DOCUMENTS

Examiner Initial		Document Number	Filing Date	Name	Class	Subclass	Publication Date if Appropriate
	*	10/151,116	05/17/02	Matulic-Adamic et al.			
	*	10/201,394	08/13/01	Vargeese et al.			
	*	10/427,160	04/30/03	Vargeese et al.			
	*	2001/0007666	01/05/99	Hoffman et al.			07/12/01
	*	2002/0130430	12/29/00	Caster et al.			09/19/02
	*	2002/0137210	08/09/01	Churikov			09/26/02
	*	60/082,404	04/20/98	Thompson et al.			
	*	60/363,124	03/11/02	Beigelman et al.			

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	*	5,138,045	08/11/92	Vargeese et al.			
	*	5,214,136	05/25/93	Lin et al.			
	*	5,334,711	08/02/94	Sproat et al.			
	*	5,624,803	04/29/97	Noonberg et al.			

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McSwiggen et al.

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Group:

	*	5,627,053	05/06/97	Usman et al.			
	*	5,631,360	05/20/97	Usman et al.			
	*	5,670,633	09/23/97	Cook et al.			
	*	5,672,695	09/30/97	Eckstein et al.			
	*	5,716,824	02/10/98	Beigelman et al.			
	*	5,792,847	08/11/98	Buhr et al.			
	*	5,804,683	09/08/98	Usman et al.			
	*	5,831,071	11/03/98	Usman et al.			
	*	5,854,038	12/29/98	Sullenger et al.			
	*	5,889,136	03/30/99	Scaringe et al.			
	*	5,898,031	04/27/99	Crooke			
	*	5,902,880	05/11/99	Thompson et al.			
	*	5,998,203	12/07/99	Matulic-Adamic et al.			
	*	6,001,311	12/14/99	Brennan et al.			
	*	6,005,087	12/21/99	Cook et al.			
	*	6,008,400	12/28/99	Scaringe et al.			
	*	6,054,576	04/25/00	Bellon et al.			
	*	6,107,094	08/22/00	Crooke			
	*	6,111,086	08/29/00	Scaringe			

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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McSwiggen et al.

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	*	6,117,657	09/12/00	Usman et al.			
	*	6,146,886	11/14/00	Thomspson			
	*	6,153,737	11/28/00	Manoharan et al.			
	*	6,162,909	12/19/00	Bellon et al.			
	*	6,235,310	05/22/01	Wang et al.			
	*	6,235,886	05/22/01	Manoharan et al.			
	*	6,248,878	06/19/01	Matulic-Adamic et al.			
	*	6,300,074	10/09/01	Gold et al.			
	*	6,303,773	10/16/01	Bellon et al.			
	*	6,335,434	01/01/02	Guzaev et al.			
	*	6,350,934	02/26/02	Zwick et al.			
	*	6,353,098	03/05/02	Usman et al.			
	*	6,395,713	05/28/02	Beigelman et al.			
	*	6,437,117	08/20/02	Usman et al.			
	*	6,447,796	09/10/02	Vook et al.			
	*	6,469,158	10/22/02	Usman et al.			
	*	6,476,205	11/05/02	Buhr et al.			
	*	6,506,559	01/14/03	Fire et al.			
	*	6,528,631	03/04/03	Cook et al.			

EXAMINER

DATE CONSIDERED

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FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	1.	4037501	08/03/00	AU (Graham et al.)				
	2.	2,359,180	08/03/00	CA (Kreutzer et al.)				
	3.	1144623	01/29/00	EP (Kreutzer et al.)				
	4.	89/02439	03/23/89	WO (Arnold et al.)				
	5.	90/14090	11/29/90	WO (Gillespie et al.)				
	6.	91/03162	03/21/91	WO (Rossi et al.)				
	7.	92/07065	04/30/92	WO (Eckstein et al.)				
	8.	93/15187	08/05/93	WO (Usman et al.)				
	9.	93/23569	11/25/93	WO (Draper et al.)				
	10.	94/01550	01/20/94	WO (Agrawal et al.)				
	11.	94/02595	02/03/94	WO (Sullivan et al.)				
	12.	95/06731	03/09/95	WO (Usman et al.)				
	13.	95/11910	05/04/95	WO (Dudycz et al.)				

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McSwiggen et al.

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Group:

	14.	96/10390	04/11/96	WO (Ansell et al.)				
	15.	96/10391	04/11/96	WO (Choi et al.)				
	16.	96/10392	04/11/96	WO (Holland et al.)				
	17.	96/18736	06/20/96	WO (Beigelman et al.)				
	18.	97/26270	07/24/97	WO (Beigelman et al.)				
	19.	99/04819	02/04/99	WO (Klimuk et al.)				
	20.	99/05094	02/04/99	WO (Beigelman et al.)				
	21.	99/07409	02/18/99	WO (Deschamps de Paillette et al.)				
	22.	99/14226	03/25/99	WO (Wengel et al.)				
	23.	99/31262	06/24/99	WO (Barry et al.)				
	24.	99/32619	07/01/99	WO (Fire et al.)				
	25.	99/49029	09/30/99	WO (Graham et al.)				
	26.	99/53050	10/21/99	WO (Waterhouse et al.)				
	27.	99/54459	10/28/99	WO (Thompson et al.)				
	273.	99/61631	12/02/99	WO (Heifetz et al.)				
	28.	00/01846	01/13/00	WO (Plaetinck et al.)				
	29.	00/44895	08/03/00	WO (Kreutzer et al.)				
	30.	00/44914	08/03/00	WO (Li et al.)				
	31.	00/49035	08/24/00	WO (Sheen)				

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Group:

	32.	00/53722	09/14/00	WO (O'Hare and Normand)				
	33.	00/63364	10/26/00	WO (Pachuk et al.)				
	34.	00/66604	11/09/00	WO (Wengel et al.)				
	35.	01/04313	01/18/01	WO (Satischandran et al.)				
	36.	01/29058	04/26/01	WO (Mello et al.)				
	37.	01/36646	05/25/01	WO (Zernicka-Goetz et al.)				
	38.	01/38551	05/31/01	WO (Grossniklaus et al.)				
	39.	01/42443	06/14/01	WO (Churikov et al.)				
	40.	01/53475	07/26/01	WO (Cogoni et al.)				
	41.	01/68836	09/20/01	WO (Beach et al.)				
	42.	01/70944	09/27/01	WO (Honer et al.)				
	43.	01/70949	09/27/01	WO (Graham et al.)				
	44.	01/72774	10/04/01	WO (Deak et al.)				
	45.	01/75164	10/11/01	WO (Tuschi et al.)				
	46.	01/92513	Look up	WO (Arndt et al.)				
	47.	01/96584	12/20/01	WO (Mushegian et al.)				
	48.	02/055692	01/09/02	WO (Kreutzer et al.)				
	49.	02/055693 ✓	01/09/02	WO (Kreutzer et al.)				
	50.	02/094185		WO (

EXAMINER

DATE CONSIDERED

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	51.	02/38805	05/16/02	WO (Echeverri et al.)				
	52.	02/44321	06/06/02	WO (Tuschl et al.)				
	53.	03/024420	03/27/93	WO (Ahlheim et al.)				
	54.	03/046185	06/05/03	WO (Wang et al.)				
	55.	03/047518	06/12/03	WO (Wang et al.)				
	56.	03/070918	08/28/03	WO (McSwiggen et al.)				
	57.	03/074654	09/12/03	WO (McSwiggen et al.)				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

	58.	Akhtar and Juliano, "Cellular Uptake and Intracellular Fate of AntiSense Oligonucleotides," <u>Trends Cell Biol.</u> 2:139-144 (1992)
	59.	Aldrian-Herrada et al., "A peptide nucleic acid (PNA) is more rapidly internalized in cultured neurons when coupled to a <i>retro-inverso</i> delivery peptide. The antisense activity depresses the target mRNA and protein in magnocellular oxytocin neurons," <u>Nucleic Acids Research</u> 26:4910-4916 (1998)
	60.	Allshire, "RNAi and Heterochromatin - A Hushed-up Affair," <u>Science</u> 297:1818-1819 (2002)
	61.	Andrews and Faller, "A rapid micropreparation technique for extraction of DNA-binding proteins from limiting numbers of mammalian cells," <u>Nucleic Acids Research</u> 19:2499 (1991)
	62.	Baenziger and Fiete, "Galactose and N-Acetylgalactosamine-Specific Endocytosis of Glycopeptides by Isolated Rat Hepatocytes," <u>Cell</u> 22:611-620 (1980)
	63.	Bahramian et al., "Transcriptional and Posttranscriptional Silencing of Rodent $\alpha 1(I)$ Collagen by a Homologous Transcriptionally Self-Silenced Transgene," <u>Molecular and Cellular Biology</u> , 274-283 (1999)
	64.	Bartel and Szostak, "Isolation of New Ribozymes from a Large Pool of Random Sequences," <u>Science</u> 261:1411-1418 (1993)
	65.	Bass, "The short answer," <u>Nature</u> 411:428-429 (2001)
	66.	Beaucage and Iyer, "The Functionalization of Oligonucleotides Via Phosphoramidite Derivatives," <u>Tetrahedron</u> 49:1925-1963 (1993)
	67.	Beaudry and Joyce, "Directed Evolution of an RNA Enzyme," <u>Science</u> 257:635-641 (1992)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant: McSwiggen et al.	
		Filing Date: December 3, 2003	Group:

68.	Beigelman et al., "Chemical Modification of Hammerhead Ribozymes," <i>The Journal of Biological Chemistry</i> 270:25702-25708 (1995)
69.	Bellon et al., "Amino-Linked Ribozymes: Post-Synthetic Conjugation of Half-Ribozymes," <i>Nucleosides & Nucleotides</i> 16:951-954 (1997)
70.	Bellon et al., "Post-synthetically Ligated Ribozymes: An Alternative Approach to Iterative Solid Phase Synthesis," <i>Bioconjugate Chem.</i> 8:204-212 (1997)
71.	Bernstein et al., "Role for a Bidentate Ribonuclease in the Initiation Step of RNA Interference," <i>Nature</i> 409:363-366 (2001)
72.	Bettinger et al., "Size Reduction of Galactosylated PEI/DNA Complexes Improves Lectin-Mediated Gene Transfer into Hepatocytes," <i>Bioconjugate Chem.</i> , 10, 558-561 (1999)
73.	Boado et al., "Drug Delivery of Antisense Molecules to the Brain for Treatment of Alzheimer's Disease and Cerebral AIDS," <i>Journal of Pharmaceutical Sciences</i> 87:1308-1315 (1998)
74.	Boado, "Antisense drug delivery through the blood-brain barrier," <i>Advanced Drug Delivery Reviews</i> 15:73-107 (1995)
75.	Bongartz et al., "Improved biological activity of antisense oligonucleotides conjugated to a fusogenic peptide," <i>Nucleic Acids Research</i> 22:4681-4688 (1994)
76.	Breaker and Joyce, "Inventing and improving ribozyme function: rational design versus iterative selection methods," <i>TIBTECH</i> 12:268-275 (1994)
77.	Breaker, "Are engineered proteins getting competition from RNA?" <i>Current Opinion in Biotechnology</i> 7:442-448 (1996)
78.	Brennan et al., "Two-Dimensional Parallel Array Technology as a New Approach to Automated Combinatorial Solid-Phase Organic Synthesis," <i>Biotechnology and Bioengineering (Combinatorial Chemistry)</i> 61:33-45 (1998)
79.	Broaddus et al., "Distribution and stability of antisense phosphorothioate oligonucleotides in rodent brain following direct intraparenchymal controlled-rate infusion," <i>Neurosurg. Focus</i> 3(5):Article 4 (1997)
80.	Burger et al., "Experimental Corneal Neovascularization: Biomicroscopic, Angiographic, and Morphologic Correlation," <i>Cornea</i> 4:35-41 (1985/1986)
81.	Burgin et al., "Chemically Modified Hammerhead Ribozymes with Improved Catalytic Rates," <i>Biochemistry</i> 35:14090-14097 (1996) (volume no. mistakenly listed as 6)
82.	Burlina et al., "Chemical Engineering of RNase Resistant and Catalytically Active Hammerhead Ribozymes," <i>Bioorganic & Medicinal Chemistry</i> 5:1999-2010 (1997)

EXAMINER	DATE CONSIDERED
----------	-----------------

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		Filing Date: December 3, 2003	Group:

83.	Caruthers et al., "Chemical Synthesis of Deoxyoligonucleotides and Deoxyoligonucleotide Analogs," <i>Methods in Enzymology</i> 211:3-19 (1992)
84.	Chen et al., "Multitarget-Ribozyme Directed to Cleave at up to Nine Highly Conserved HIV-1 env RNA Regions Inhibits HIV-1 Replication-Potential Effectiveness Against Most Presently Sequenced HIV-1 Isolates," <i>Nucleic Acids Research</i> 20:4581-4589 (1992)
85.	Choi et al., "Effect of Poly(ethylene glycol) Grafting on Polyethylenimine as a Gene Transfer Vector <i>in vitro</i> ," <i>Bull. Korean Chem. Soc.</i> , 22, 46-52 (2001)
86.	Chowrira et al., " <i>In Vitro</i> and <i>in Vivo</i> Comparison of Hammerhead, Hairpin, and Hepatitis Delta Virus Self-Processing Ribozyme Cassettes," <i>J. Biol. Chem.</i> 269:25856-25864 (1994)
87.	Chun et al., "Effect of infusion of vasoactive intestinal peptide (VIP)-antisense oligodeoxynucleotide into the third cerebral ventricle above the hypothalamic cuprachiasmatic nucleus on the hyperglycemia caused by intracranial injection of 2-deoxy-D-glucose in rats," <i>Neuroscience Letters</i> 257:135-138 (1998)
88.	Cload and Schepartz, "Polyether Tethered Oligonucleotide Probes," <i>J. Am. Chem. Soc.</i> 113:6324-6326 (1991)
89.	Cole et al., "Activation of RNase L by 2',5'-Oligoadenylates," <i>The Journal of Biological Chemistry</i> , 272:31, 19187-19192 (1997)
90.	Connolly et al., "Binding and Endocytosis of Cluster Glycosides by Rabbit Hepatocytes," <i>The Journ. of Biol. Chem.</i> 257:939-945 (1982)
91.	Conry et al., "Phase I Trial of a Recombinant Vaccinia Virus Encoding Carcinoembryonic Antigen in Metastatic Adenocarcinoma: Comparison of Intradermal <i>versus</i> Subcutaneous Administration," <i>Clinical Cancer Research</i> 5:2330-2337 (1999)
92.	Couture and Stinchcomb, "Anti-gene therapy: the use of ribozymes to inhibit gene function," <i>Trends In Genetics</i> 12:510-515 (1996)
93.	d'Aldin et al., "Antisense oligonucleotides to the GluR2 AMPA receptor subunit modify excitatory synaptic transmission <i>in vivo</i> ," <i>Molecular Brain Research</i> 55:151-164 (1998)
94.	Diebold et al., "Mannose Polyethylenimine Conjugates for Targeted DNA Delivery into Dendritic Cells*," <i>The Journal of Biological Chemistry</i> , 274, 19087-19094 (1999)
95.	Dryden et al., "The lack of specificity of neuropeptide Y (NPY) antisense oligodeoxynucleotides administered intracerebroventricularly in inhibiting food intake and NPY gene expression in the rat hypothalamus," <i>Journal of Endocrinology</i> 157:169-175 (1998)

EXAMINER	DATE CONSIDERED
----------	-----------------

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

96.	Durand et al., "Circular Dichroism Studies of an Oligodeoxyribonucleotide Containing a Hairpin Loop Made of a Hexaethylene Glycol Chain: Conformation and Stability," <u>Nucleic Acids Research</u> 18:6353-6359 (1990) [sometimes referred to as Seela and Kaiser]
97.	Earnshaw et al., "Modified Oligoribonucleotides as Site-Specific Probes of RNA Structure and Function," <u>Biopolymers</u> 48:39-55 (1998)
98.	Elbashir et al., "Duplexes of 21-nucleotide RNAs mediate RNA interference in cultured mammalian cells," <u>Nature</u> 411:494-498 (2001)
99.	Elbashir et al., "Functional Anatomy of siRNAs for Mediating Efficient RNAi in <i>Drosophila Melanogaster</i> Embryo Lysate," <u>The EMBO Journal</u> 20:6877-6888 (2001)
100.	Elbashir et al., "RNA Interference is Mediated by 21- and 22-Nucleotide RNAs," <u>Genes and Development</u> 15:188-200 (2001)
101.	Elkins and Rossi, "Ch. 2 - Cellular Delivery of Ribozymes," in <u>Delivery Strategies for Antisense Oligonucleotide Therapeutics</u> , edited by Akhtar, CRC Press, pp. 17-220 (1995)
102.	Emerich et al., "Biocompatibility of Poly (DL-Lactide-co-Glycolide) Microspheres Implanted Into the Brain," <u>Cell Transplantation</u> 8:47-58 (1999)
103.	Erbacher et al., "Transfection and physical properties of various saccharide, poly(ethylene glycol), and antibody-derivatized polyethylenimines (PEI), <u>The Journal of Gene Medicine</u> , 1, 210-222 (1999) [sometimes incorrectly cited as pages 1-18]
104.	Ferentz and Verdine, "Disulfied Cross-Linked Oligonucleotides," <u>J. Am. Chem. Soc.</u> 113:4000-4002 (1991)
105.	Filion and Phillips, "Toxicity and immunomodulatory activity of liposomal vectors formulated with cationic lipids toward immune effector cells," <u>Biochimica et Biophysica Acta</u> 1329:345-356 (1997)
106.	Fire et al., "Potent and Specific Genetic Interference by Double-Stranded RNA in <i>Caenorhabditis Elegans</i> ," <u>Nature</u> 391:806-811(1998)
107.	Fire, "RNA-triggered Gene Silencing," <u>TIG</u> 15:358-363(1999)
108.	Freier et al., "Improved free-energy parameters for predictions of RNA duplex stability," <u>Proc. Natl. Acad. Sci. USA</u> 83:9373-9377 (1986) [sometimes referred to as Frier]
109.	Furgeson et al., "Modified Linear Polyethylenimine—Cholesterol Conjugates for DNA Complexation," <u>Bioconjugate Chem.</u> , 14, 840-847 (2003)
110.	Genbank Accession No. AB020693
111.	Genbank Accession No. AF037412

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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112.	Genbank Accession No. AF063658
113.	Genbank Accession No. AF100308.1
114.	Genbank Accession No. AJ430458
115.	Genbank Accession No. D00239
116.	Genbank Accession No. D11168
117.	Genbank Accession No. D50483.1
118.	Genbank Accession No. K02121
119.	Genbank Accession No. L24917
120.	Genbank Accession No. L38318
121.	Genbank Accession No. M16248
122.	Genbank Accession No. M31724
123.	Genbank Accession No. NC_001345
124.	Genbank Accession No. NC_001347
125.	Genbank Accession No. NC_001353
126.	Genbank Accession No. NC_001563
127.	Genbank Accession No. NC_001781
128.	Genbank Accession No. NC_004718
129.	Genbank Accession No. NM_001285
130.	Genbank Accession No. NM_001982

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McSwiggen et al.

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131.	Genbank Accession No. NM_002592.1
132.	Genbank Accession No. NM_002667
133.	Genbank Accession No. NM_002737
134.	Genbank Accession No. NM_003219
135.	Genbank Accession No. NM_003376.3
136.	Genbank Accession No. NM_004283
137.	Genbank Accession No. NM_004448
138.	Genbank Accession No. NM_005228
139.	Genbank Accession No. NM_005235
140.	Genbank Accession No. S82227
141.	Genbank Accession No. U51188
142.	Genbank Accession No. U86046
143.	Genbank Accession No. X01087
144.	Genbank Accession No. X02316
145.	Genbank Accession No. X07203
146.	Genbank Accession No. X60667
147.	Genbank Accession No. XM_015620
148.	Genbank Accession No. XM_033884
149.	Genbank Accession No. XM_067723

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STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

150.	Ghirnikar et al., "Chemokine inhibition in rat stab wound brain injury using antisense oligodeoxynucleotides," <i>Neuroscience Letters</i> 247:21-24 (1998)
151.	Godbey et al., "Poly(ethylenimine) and its role in gene delivery," <i>Journal of Controlled Release</i> , 60, 149-160 (1999)
152.	Gold, "Axonal Regeneration of Sensory Nerves is Delayed by Continuous Intrathecal Infusion of Nerve Growth Factor," <i>Neuroscience</i> 76:1153-1158 (1997)
153.	Gonzalez et al., "New Class of Polymers for the Delivery of Macromolecular Therapeutics," <i>Bioconjugate Chem.</i> 10:1068-1074 (1999)
154.	Good et al., "Expression of small, therapeutic RNAs in human nuclei," <i>Gene Therapy</i> 4:45-54 (1997)
155.	Grant et al., "Insulin-like growth factor I acts as an angiogenic agent in rabbit cornea and retina: comparative studies with basic fibroblast growth factor," <i>Diabetologia</i> 36:282-291 (1993)
156.	Hall et al., "Establishment and Maintenance of a Heterochromatin Domain," <i>Science</i> 297:2232-2237 (2002)
157.	Hamilton, et al., "A Species of Small Antisense RNA in Posttranscriptional Gene Silencing in Plants," <i>Science</i> , 286, 950-952 (1999)
158.	Hammond et al., "An RNA-Directed Nuclease Mediates Post-Transcriptional Gene Silencing in <i>Drosophila</i> Cells," <i>Nature</i> 404:293-296 (2000)
159.	Hartmann et al., "Spontaneous and Cationic Lipid-Mediated Uptake of Antisense Oligonucleotides in Human Monocytes and Lymphocytes," <i>The Journal of Pharmacology and Experimental Therapeutics</i> 285:920-928 (1998)
160.	Hofland and Huang, "Formulation and Delivery of Nucleic Acids," <i>Handbook of Exp. Pharmacol.</i> 137:165-192 (1999)
161.	Hunziker et al., "Nucleic Acid Analogues: Synthesis and Properties, in Modern Synthetic Methods," <i>VCH</i> , 331-417 (1995)
162.	Hutvagner and Zamore, "A MicroRNA in a Multiple-Turnover RNAi Enzyme Complex," <i>Science</i> 297:2056-2060 (2002)
163.	Hutvagner et al., "A Cellular Function for the RNA-Interference Enzyme Dicer in the Maturation of the <i>let-7</i> Small Temporal RNA," <i>Science</i> 293:834-838 (2001)
164.	International Search Report for PCT/US03/05028 mailed October 17, 2003
165.	International Search Report for PCT/US03/05346 mailed October 17, 2003

EXAMINER

DATE CONSIDERED

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STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

166.	Ishiwata et al., "Physical-Chemistry Characteristics and Biodistribution of Poly(ethylene glycol)-Coated Liposomes Using Poly(oxyethylene) Cholesteryl Ether," <u>Chem. Pharm. Bull.</u> 43:1005-1011 (1995) (mistakenly referred to as Ishiwataet)
167.	Ishizaka et al., "Isolation of Active Ribozymes from an RNA Pool of Random Sequences Using an Anchored Substrate RNA," <u>Biochemical and Biophysical Research Communication</u> 214(2):403-409 (1995)
168.	Izant and Weintraub, "Constitutive and Conditional Suppression of Exogenous and Endogeneous Genes by Anti-Sense RNA," <u>Science</u> 229:345-352 (1985)
169.	Jaschke et al., "Automated Incorporation of Polyethylene Glycol into Synthetic Oligonucleotides," <u>Tetrahedron Letters</u> 34:301-304 (1993) (sometimes mistakenly referred to as Jsckhe)
170.	Jenuwein, "An RNA-Guided Pathway for the Epigenome," <u>Science</u> 297:2215-2218 (2002)
171.	Jolliet-Riant and Tillement, "Drug transfer across the blood-brain barrier and improvement of brain delivery," <u>Fundam. Clin. Pharmacol.</u> 13:16-26 (1999)
172.	Joyce et al., "Amplification, mutation and selection of catalytic RNA," <u>Gene</u> 82:83-87 (1989)
173.	Joyce, "Directed Molecular Evolution," <u>Scientific American</u> 267:90-97 (1992)
174.	Karpeisky et al, "Highly Efficient Synthesis of 2'-O-Amino Nucleosides And Their Incorporation in Hammerhead Ribozymes," <u>Tetrahedron Letters</u> 39:1131-1134 (1998)
175.	Kashani-Sabet et al., "Reversal of the Malignant Phenotype by an Anti-ras Ribozyme," <u>Antisense Research & Development</u> 2:3-15 (1992)
176.	Kim et al., "Inhibition of vascular endothelial growth factor-induced angiogenesis suppresses tumour growth <i>in vivo</i> ," <u>Nature</u> 362:841-844 (1993)
177.	Kronenwett et al., "Oligodeoxyribonucleotide Uptake in Primary Human Hematopoietic Cells is Enhanced by Cationic Lipids and Depends on the Hematopoietic Cell Subset," <u>Blood</u> 91:852-862 (1998)
178.	Kumar and Ellington, "Artificial evolution and natural ribozymes," <u>FASEB J.</u> 9:1183-1195 (1995)
179.	Kunath et al., "The structure of PEG-modified poly(ethylene imines) influences biodistribution and pharmacokinetics of their complexes with NF-kappaB decoy in mice.," <u>Medline (Pharm Res.)</u> 19(6): 810-817 (6/1/2002)
180.	Kuwabara et al., "Allosterically Controllable Ribozymes with Biosensor Functions," <u>Current Opinion in Chem. Biol.</u> 4:669-677 (2000)
181.	Lasic and Needham "The 'Stealth' Liposome: A Prototypical Biomaterial," <u>Chemical Reviews</u> 95:2601-2627 (1995)
182.	Lasic and Papahadjopoulos, "Liposomes Revisited," <u>Science</u> 267:1275-1276 (1995)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

183.	Lee and Larson, "Modified Liposome Formulations for Cytosolic Delivery of Macromolecules," <i>ACS Symposium Series</i> 752:184-192 (2000)
184.	Lee and Lee, "Preparation of Cluster Glycosides of <i>N</i> -Acetylgalactosamine That Have Subnanomolar Binding Constants Towards the Mammalian Hepatic Gal/GalNAc-specific Receptor," <i>Glyconjugates J.</i> 4:317-328 (1987)
185.	Lee et al., "Enhancing the Catalytic Repertoire of Nucleic Acids: A Systematic Study of Linker Length and Rigidity," <i>Nucleic Acids Research</i> 29:1565-1573 (2001)
186.	Lee et al., "Expression of Small Interfering RNA's Targeted Against HIV-1 <i>rev</i> Transcripts in Human Cells," <i>Nature Biotechnology</i> 19:500-505 (2002)
187.	Leirdal et al., "Gene silencing in mammalian cells by preformed small RNA duplexes," <i>Biochemical and Biophysical Research Communications</i> , 295, 744-748 (2002)
188.	Lepri et al., "Effect of Low Molecular Weight Heparan Sulphate on Angiogenesis in the Rat Cornea after Chemical Cauterization," <i>Journal of Ocular Pharmacology</i> 10:273-281 (1994)
189.	L'Huillier et al., "Cytoplasmic Delivery of Ribozymes Leads to Efficient Reduction in α -Lactalbumin mRNA Levels in C1271 Mouse," <i>EMBO J.</i> 11:4411-4418 (1992)
190.	Limbach et al., "Summary: the modified nucleosides of RNA," <i>Nucleic Acids Research</i> 22(12):2183-2196 (1994)
191.	Lin and Matteucci, "A Cytosine Analogue Capable of Clamp-Like Binding to a Guanine in Helical Nucleic Acid," <i>J. Am. Chem. Soc.</i> 120:8531-8532 (1998)
192.	Lin et al., "A Novel mRNA-crRNA Interference Phenomenon for Silencing bcl-2 Expression in Human LNCaP Cells," <i>Biochemical and Biophysical Research Communications</i> , 281, 639-644 (2001)
193.	Liszewicz et al., "Inhibition of Human Immunodeficiency Virus Type 1 Replication by Regulated Expression of a Polymeric Tat Activation Response RNA Decoy as a Strategy for Gene Therapy in AIDS," <i>Proc. Natl. Acad. Sci. U.S.A.</i> 90:8000-8004 (1993)
194.	Liu et al., "Cationic Liposome-mediated Intravenous Gene Delivery," <i>J. Biol. Chem.</i> 270(42):24864-24870 (1995)
195.	Loakes, "The Applications of Universal DNA Base Analogues," <i>Nucleic Acids Research</i> 29:2437-2447 (2001)
196.	Long and Uhlenbeck, "Kinetic characterization of intramolecular and intermolecular hammerhead RNAs with stem II deletions," <i>Proc. Natl. Acad. Sci. USA</i> 91:6977-6981 (1994)
197.	Ma and Wei, "Enhanced Delivery of Synthetic Oligonucleotides to Human Leukaemic Cells by Liposomes and Immunoliposomes," <i>Leukemia Research</i> 20:925-930 (1996)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

198.	Ma et al., "Design and Synthesis of RNA Miniduplexes via a Synthetic Linker Approach. 2. Generation of Covalently Closed, Double-Stranded Cyclic HIV-1 TAR RNA Analogs with High Tat-Binding Affinity," <u>Nucleic Acids Research</u> 21:2585-2589 (1993)
199.	Ma et al., "Design and Synthesis of RNA Miniduplexes via a Synthetic Linker Approach," <u>Biochemistry</u> 32:1751-1758 (1993)
200.	Martinez et al., "Single-Stranded Antisense siRNAs Guide Target RNA Cleavage in RNAi," <u>Cell</u> 110:563-574 (2002)
201.	Matulic-Adamic et al., "Functionalized Nucleoside 5'-triphosphates for In Vitro Selection of New Catalytic Ribonucleic Acids," <u>Bioorganic & Medicinal Chemistry Letters</u> 10:1299-1302 (2000)
202.	Maurer et al., "Lipid-based systems for the intracellular delivery of genetic drugs," <u>Molecular Membrane Biology</u> 16:129-140 (1999)
203.	McCurdy et al., "Deoxyoligonucleotides with Inverted Polarity: Synthesis and Use in Triple-Helix Formation" <u>Nucleosides & Nucleotides</u> 10:287-290 (1991)
204.	McGarry and Lindquist, "Inhibition of heat shock protein synthesis by heat-inducible antisense RNA," <u>Proc. Natl. Acad. Sci. USA</u> 83:399-403 (1986)
205.	McManus et al., "Gene Silencing Using Micro-RNA Designed Hairpins," <u>RNA</u> 8:842-850 (2002)
206.	Mesmaeker et al., "Novel Backbone Replacements for Oligonucleotides," <u>American Chemical Society</u> , pp. 24-39 (1994)
207.	Miyagishi and Taira, "U6 Promoter-driven siRNAs with Four Uridine 3' Overhangs Efficiently Suppress Targeted Gene Expression in Mammalian Cells," <u>Nature Biotechnology</u> 19:497-500 (2002)
208.	Moore and Sharp, "Site-Specific Modification of Pre-mRNA: The 2'-Hydroxyl Groups at the Splice Sites," <u>Science</u> 256:992-996 (1992)
209.	Mori et al., "Pigment epithelium-derived factor inhibits retinal and choroidal neovascularization," <u>Journal of Cellular Physiology</u> , 118(2) 253-263 (2001)
210.	Nakamaye and Eckstein, "AUA-Cleaving Hammerhead Ribozymes: Attempted Selection for Improved Cleavage," <u>Biochemistry</u> 33:1271-1277 (1994)
211.	Noonberg et al., <i>In vivo</i> generation of highly abundant sequence-specific oligonucleotides for antisense and triplex gene regulation," <u>Nucleic Acids Research</u> 22(14):2830-2836 (1994)
212.	Novina et al., <u>Nature Medicine</u> , 8, 681-686 (2002)
213.	Nykanen et al., "ATP Requirements and Small Interfering RNA Structure in the RNA Interference Pathway," <u>Cell</u> 107:309-321 (2001)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

214.	Ohkawa et al., "Activities of HIV-RNA Targeted Ribozymes Transcribed From a 'Shot-Gun' Type Ribozyme-trimming Plasmid," <i>Nucleic Acids Symp. Ser.</i> 27:15-16 (1992)
215.	Ohno-Matsui, et al., "Inducible Expression of Vascular Endothelial Growth Factor in Adult Mice Causes Severe Proliferative Retinopathy and Retinal Detachment," <i>Animal Models</i> from the Departments of Ophthalmology and Neuroscience and Molecular Biology and Genetics, <i>Am. J. Pathology</i> , 160, 711-719 (2002)
216.	Ojwang et al., "Inhibition of Human Immunodeficiency Virus Type 1 Expression by a Hairpin Ribozyme," <i>Proc. Natl. Acad. Sci. USA</i> 89:10802-10806 (1992)
217.	Oku et al., "Real-time analysis of liposomal trafficking in tumor-bearing mice by use of positron emission tomography," <i>Biochimica et Biophysica Acta</i> 1238:86-90 (1995)
218.	Ono et al., "DNA Triplex Formation of Oligonucleotide Analogues Consisting of Linker Groups and Octamer Segments That Have Opposite Sugar-Phosphate Backbone Polarities," <i>Biochemistry</i> 30:9914-9921 (1991)
219.	O'Reilly et al., "Angiostatin: A Novel Angiogenesis Inhibitor That Mediates the Suppression of Metastases by a Lewis Lung Carcinoma," <i>Cell</i> 79:315-328 (1994)
220.	Orgis et al., "DNA/polyethylenimine transfection particles: Influence of ligands, polymer size, and PEGylation on internalization and gene expression," <i>AAPS PharmSci.</i> , 3 (3) article 21 (http://www.pharmsci.org) p. 1- 11 (2001)
221.	Ormerod et al., "Effects of Altering the Eicosanoid Precursor Pool on Neovascularization and Inflammation in the Alkali-burned Rabbit Cornea," <i>American Journal of Pathology</i> 137:1243-1252 (1990)
222.	Pandey et al., "Role of B61, the Ligand for the Eck Receptor Tyrosine Kinase, in TNF- α -Induced Angiogenesis," <i>Science</i> 268:567-569 (1995)
223.	Pardridge et al., "Vector-mediated delivery of a polyamide ("peptide") nucleic acid analogue through the blood-brain barrier <i>in vivo</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 92:5592-5596 (1995)
224.	Parrish, "Functional Anatomy of a dsRNA Trigger: Differential Requirement for the Two Trigger Strands in RNA Interference," <i>Molecular Cell</i> 6:1077-1087 (2000)
225.	Paul et al., "Effective Expression of Small Interfering RNA in Human Cells," <i>Nature Biotechnology</i> 20:505-508 (2002)
226.	Perreault et al., "Mixed Deoxyribo- and Ribo-Oligonucleotides with Catalytic Activity," <i>Nature</i> 344:565-567 (1990) (often mistakenly listed as Perrault)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

227.	Petersen et al., "Polyethylenimine-graft-Poly(ethylene glycol) Copolymers: Influence of Copolymer Block Structure on DNA Complexation and Biological Activities as Gene Delivery System, <i>Bioconjugate Chem.</i> , 13, 845-854 (2002)
228.	Pieken et al., "Kinetic Characterization of Ribonuclease-Resistant 2'-Modified Hammerhead Ribozymes," <i>Science</i> 253:314-317 (1991)
229.	Pierce et al., "Vascular endothelial growth factor/vascular permeability factor expression in a mouse model of retinal neovascularization," <i>Proc. Natl. Acad. Sci. USA</i> 92:905-909 (1995)
230.	Ponpipom et al., "Cell-Specific Ligands for Selective Drug Delivery to Tissues and Organs," <i>J. Med. Chem.</i> 24:1388-1395 (1981)
231.	Reinhart and Bartel, "Small RNAs Correspond to Centromer Heterochromatic Repeats," <i>Science</i> 297:1831 (2002)
232.	Reinhart et al., "MicroRNAs in Plants," <i>Genes & Development</i> 16:1616-1626 (2002)
233.	Richardson and Schepartz, "Tethered Oligonucleotide Probes. A Strategy for the Recognition of Structured RNA," <i>J. Am. Chem. Soc.</i> 113:5109-5111 (1991)
234.	Saenger (ed), "Modified Nucleosides and Nucleotides; Nucleoside Di- and Triphosphates; Coenzymes and Antibiotics, (ch.7) <i>Principles of Nucleic Acid Structure</i> 158-200 (1984)
235.	Santoro and Joyce, "A general purpose RNA-cleaving DNA enzyme," <i>Proc. Natl. Acad. Sci. USA</i> 94:4262-4266 (1997)
236.	Scaringe et al., "Chemical synthesis of biologically active oligoribonucleotides using β -cyanoethyl protected ribonucleoside phosphoramidites," <i>Nucl Acids Res.</i> 18:5433-5441 (1990)
237.	Schroeder et al., "Diffusion Enhancement of Drugs by Loaded Nanoparticles in Vitro," <i>Prog. Neuro-Psychopharmacol. & Biol. Psychiat.</i> 23:941-949 (1999)
238.	Schwarz et al., "Evidence that siRNAs Function as Guides, Not Primers, in the <i>Drosophila</i> and Human RNAi Pathways," <i>Molecular Cell</i> 10:537-548 (2002)
239.	Seela and Kaiser, "Oligodeoxyribonucleotides containing 1,3-propanediol as nucleoside substitute," <i>Nucleic Acids Research</i> 15:3113-3129 (1987)
240.	Senger et al., "Vascular permeability factor (VPF, VEGF) in tumor biology," <i>Cancer and Metastasis Reviews</i> 12:303-324 (1993)
241.	Shabarova et al., "Chemical ligation of DNA: The first non-enzymatic assembly of a biologically active gene," <i>Nucleic Acids Research</i> 19:4247-4251 (1991)
242.	Sheehan et al., "Biochemical properties of phosphonoacetate and thiophosphonoacetate oligodeoxyribonucleotides," <i>Nucleic Acids Research</i> , 31 (14), 4109-4118 (2003)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant: McSwiggen et al.	
		Filing Date: December 3, 2003	Group:

243.	Shweiki et al., "Patterns of Expression of Vascular Endothelial Growth Factor (VEGF) and VEGF Receptors in Mice Suggest a Role in Hormonally Regulated Angiogenesis," <i>J. Clin. Invest.</i> 91:2235-2243 (1993)
244.	Sullenger and Cech, "Tethering Ribozymes to a Retroviral Packaging Signal for Destruction of Viral RNA," <i>Science</i> 262:1566-1569 (1993)
245.	Szostak, " <i>In Vitro</i> Genes," <i>TIBS</i> 17:89-93 (1993)
246.	Taira et al., "Construction of a novel RNA-transcript-trimming plasmid which can be used both <i>in vitro</i> in place of run-off and (G)-free transcriptions and <i>in vivo</i> as multi-sequences transcription vectors," <i>Nucleic Acids Research</i> 19:5125-5130 (1991)
247.	Takahashi et al., "Markedly Increased Amounts of Messenger RNAs for Vascular Endothelial Growth Factor and Placenta Growth Factor in Renal Cell Carcinoma Associated with Angiogenesis," <i>Cancer Research</i> 54:4233-4237 (1994)
248.	Tang et al., "Examination of the catalytic fitness of the hammerhead ribozyme by in vitro selection," <i>RNA</i> 3:914-925 (1997)
249.	Thomas et al., "Enhancing polyethylenimine's delivery of plasmid DNA into mammalian cells," <i>PNAS</i> , 99, 14640-14645 (2002)
250.	Thompson et al., "Improved accumulation and activity of ribozymes expressed from a tRNA-based RNA polymerase III promoter," <i>Nucleic Acids Research</i> 23:2259-2268 (1995)
251.	Turner et al., "Improved Parameters for Prediction of RNA Structure," <i>Cold Spring Harbor Symposia on Quantitative Biology</i> Volume LII, pp. 123-133 (1987)
252.	Turner et al., "Free Energy Increments for Hydrogen Bonds in Nucleic Acid Base Pairs," <i>J. Am. Chem. Soc.</i> 109:3783-3785 (1987)
253.	Tuschl et al., "Targeted mRNA Degradation by Double-Stranded RNA In Vitro," <i>Genes & Development</i> 13:3191-3197 (1999)
254.	Tyler et al., "Peptide nucleic acids targeted to the neurotensin receptor and administered i.p. cross the blood-brain barrier and specifically reduce gene expression," <i>Proc. Natl. Acad. Sci. USA</i> 96:7053-7058 (1999)
255.	Tyler et al., "Specific gene blockade shows that peptide nucleic acids readily enter neuronal cells in vivo," <i>FEBS Letters</i> 421:280-284 (1998)
256.	Uhlmann and Peyman, "Antisense Oligonucleotides: A New Therapeutic Principle," <i>Chemical Reviews</i> 90:544-584 (1990)
257.	Usman and Cedergren, "Exploiting the chemical synthesis of RNA," <i>TIBS</i> 17:334-339 (1992)

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant: McSwiggen et al.	
		Filing Date: December 3, 2003	Group:

258.	Usman et al., "Automated Chemical Synthesis of Long Oligoribonucleotides Using 2'-O-Silylated Ribonucleoside 3'-O-Phosphoramidites on a Controlled-Pore Glass Support: Synthesis of a 43-Nucleotide Sequence Similar to the 3'-Half Molecule of an <i>Escherichia coli</i> Formylmethionine tRNA," <u>J. Am. Chem. Soc.</u> 109:7845-7854 (1987)
259.	Usman et al., "Chemical modification of hammerhead ribozymes: activity and nuclease resistance," <u>Nucleic Acids Symposium Series</u> 31:163-164 (1994)
260.	Vaish et al., "Isolation of Hammerhead Ribozymes with Altered Core Sequences by <i>in Vitro</i> Selection," <u>Biochemistry</u> 36:6495-6501 (1997)
261.	Ventura et al., "Activation of HIV-Specific Ribozyme Activity by Self-Cleavage," <u>Nucleic Acids Research</u> 21:3249-3255 (1993)
262.	Verma and Eckstein, "Modified Oligonucleotides: Synthesis and Strategy for Users," <u>Annu. Rev. Biochem.</u> 67:99-134 (1998)
263.	Volpe et al., "Regulation of Heterochromatic Silencing and Histone H3 Lysine-9 Methylation by RNAi," <u>Science</u> 297:1833-1837 (2002)
264.	Wianny and Zernicka-Goetz et al., "Specific Interference with Gene Function by Double-Stranded RNA in Early Mouse Development," <u>Nature Cell Biology</u> 2:70-75 (2000)
265.	Wincott et al., "Synthesis, deprotection, analysis and purification of RNA and ribozymes," <u>Nucleic Acids Research</u> 23(14):2677-2684 (1995)
266.	Wincott et al., "A Practical Method for the Production of RNA and Ribozymes," <u>Methods in Molecular Biology</u> 74:59-69 (1997)
267.	Wu and Kaufman, <u>J. Biol. Chem.</u> , 272, 1921-1926 (1997)
268.	Wu and Wu, "Receptor-mediated <i>in Vitro</i> Gene Transformation by a Soluble DNA Carrier System," <u>The Journ. of Biol. Chem.</u> 262:4429-4432 (1987)
269.	Yamada et al., "Nanoparticles for the delivery of genes and drugs to human hepatocytes," <u>Nature Biology</u> , Published online: 29 June 2003, doi:10.1038/nbt843 (August 2003 Volume 21 Number 8 pp 885-890) (2003)
270.	Yu et al., "A Hairpin Ribozyme Inhibits Expression of Diverse Strains of Human Immunodeficiency Virus Type 1," <u>Proc. Natl. Acad. Sci. USA</u> 90:6340-6344 (1993)
271.	Zamore et al., "RNAi: Double-Stranded RNA Directs the ATP-Dependent Cleavage of mRNA at 21 to 23 Nucleotide Intervals," <u>Cell</u> 101:25-33 (2000)
272.	Ziche et al., "Angiogenesis Can Be Stimulated or Repressed <i>In Vivo</i> by a Change in GM3:GD3 Ganglioside Ratio," <u>Laboratory Investigation</u> 67:711-715 (1992) [mistakenly referred to as Zieche]

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

McSwiggen et al.

Filing Date:

December 3, 2003

Group:

	274.	Lin et al., "Policing rogue genes," Nature, 402, 128-129 (1999)
	275.	Sharp et al., "RNAi and double-strand RNA," Genes & Development, 13:139-141 (1999)
	276.	Strauss, Evelyn, "Molecular Biology: Candidate 'Gene Silencers' Found," Molecular Biology, Vol. 286, No. 5441, p. 886 (1999) [sometimes mistakenly referred to as being published in Science]
	277.	Waterhouse et al., "Virus resistance and gene silencing in plants can be induced by simultaneous expression of sense and antisense RNA," Proc. Natl. Acad. Sci. USA, 95, 13959-13964 (1998)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.